

Vulnerability Assessment Worksheet

1. Water System Objectives	2. Ranking of Objectives	3. Critical Assets to meet Objectives	4. Consequence (C)/ Ranking of Assets
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H

5. Threats to System		6. Critical Asset Affected	7. Vulnerability (V)
Insider	-----	a.	L / H
	-----	b.	L / H
	-----	c.	L / H
	-----	d.	L / H
Outsider	-----	e.	L / H
	-----	f.	L / H

8. Relative Risk (R) of Critical Asset	9. Proposed Upgrade	10. Revised Risk Ranking "R"
a. L / H		a. L / H
b. L / H		b. L / H
c. L / H		c. L / H
d. L / H		d. L / H

11. Relative Risk Reduction	12. Relative Cost	13. Other Benefits	14. Upgrade Preference
a. L / H	a. L / H	a.	a. L / H
b. L / H	b. L / H	b.	b. L / H
c. L / H	c. L / H	c.	c. L / H
d. L / H	d. L / H	d.	d. L / H

Vulnerability Assessment Worksheet

1. Water System Objectives	2. Ranking of Objectives	3. Critical Assets to meet Objectives	4. Consequence (C)/ Ranking of Assets
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H

5. Threats to System		6. Critical Asset Affected	7. Vulnerability (V)
Insider	-----	a.	L / H
	-----	b.	L / H
	-----	c.	L / H
	-----	d.	L / H
Outsider	-----	e.	L / H
	-----	f.	L / H

8. Relative Risk (R) of Critical Asset	9. Proposed Upgrade	10. Revised Risk Ranking "R"
a. L / H		a. L / H
b. L / H		b. L / H
c. L / H		c. L / H
d. L / H		d. L / H

11. Relative Risk Reduction	12. Relative Cost	13. Other Benefits	14. Upgrade Preference
a. L / H	a. L / H	a.	a. L / H
b. L / H	b. L / H	b.	b. L / H
c. L / H	c. L / H	c.	c. L / H
d. L / H	d. L / H	d.	d. L / H

Vulnerability Assessment Worksheet

1. Water System Objectives	2. Ranking of Objectives	3. Critical Assets to meet Objectives	4. Consequence (C)/ Ranking of Assets
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H

5. Threats to System		6. Critical Asset Affected	7. Vulnerability (V)
Insider	-----	a.	L / H
	-----	b.	L / H
	-----	c.	L / H
	-----	d.	L / H
	-----	e.	L / H
Outsider	-----	f.	L / H

8. Relative Risk (R) of Critical Asset	9. Proposed Upgrade	10. Revised Risk Ranking "R"
a. L / H		a. L / H
b. L / H		b. L / H
c. L / H		c. L / H
d. L / H		d. L / H

11. Relative Risk Reduction	12. Relative Cost	13. Other Benefits	14. Upgrade Preference
a. L / H	a. L / H	a.	a. L / H
b. L / H	b. L / H	b.	b. L / H
c. L / H	c. L / H	c.	c. L / H
d. L / H	d. L / H	d.	d. L / H

Vulnerability Assessment Worksheet

1. Water System Objectives	2. Ranking of Objectives	3. Critical Assets to meet Objectives	4. Consequence (C)/ Ranking of Assets
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H
			L / H

5. Threats to System		6. Critical Asset Affected	7. Vulnerability (V)
Insider	-----	a.	L / H
	-----	b.	L / H
	-----	c.	L / H
	-----	d.	L / H
Outsider	-----	e.	L / H
	-----	f.	L / H

8. Relative Risk (R) of Critical Asset	9. Proposed Upgrade	10. Revised Risk Ranking "R"
a. L / H		a. L / H
b. L / H		b. L / H
c. L / H		c. L / H
d. L / H		d. L / H

11. Relative Risk Reduction	12. Relative Cost	13. Other Benefits	14. Upgrade Preference
a. L / H	a. L / H	a.	a. L / H
b. L / H	b. L / H	b.	b. L / H
c. L / H	c. L / H	c.	c. L / H
d. L / H	d. L / H	d.	d. L / H

Date _____

EMERGENCY RESPONSE PLAN TEMPLATE

For the _____ water supply system.

The introduction should identify the requirement to have a documented emergency response plan (ERP), the goal(s) of the plan (e.g., be able to quickly identify an emergency and initiate timely and effective response action, be able to quickly respond and repair damages to minimize system downtime) and how access to the plan is limited.

GENERAL

1. Personnel

List personnel available during emergency conditions (include position, job duties, telephone number, and whether available during strikes):

2. Notification

List critical telephone numbers that will be used in responding to an incident [Who/What/When], (specific notification procedures should be developed by the utility to respond to a specific incident):

- a) Local Emergency Planning Committees:
- b) Appropriate Municipal Officials:
- c) Michigan Department of Environmental Quality:
- d) Local Health Department:
- e) Local Law Enforcement:
- f) Emergency Medical Services and Fire Departments:
- g) Critical Care Facilities:
- h) Local Natural Gas and Electricity Providers:
- i) Federal Bureau of Investigation Field Office:
- j) Governor's Office:
- k) National Response Center (1-900-424-8802) to notify predetermined federal response agencies:
- l) Newspapers:
- m) Television/Radio Stations
- n) Nearby Water Utilities:
- o) Nearby Laboratories:
- p) Others:

3. Contractors

Emergency procurement guidelines for utilizing contractors. List telephone numbers of reputable contractors that may need to be utilized during emergencies:

- a) Excavators:
- b) Welders:
- c) Electricians

- d) Other

4. Suppliers

Emergency procurement guidelines for purchasing equipment and supplies. List telephone numbers of suppliers that may need to be utilized during emergencies:

- a) Chemical Suppliers:
- b) Pump Suppliers:
- c) Water Main Repair Appurtenances:
- d) Other:

5. Equipment

List of equipment and their location(s) that may need to be utilized during emergencies, including Personal Protective Equipment for staff:

CRITICAL CUSTOMERS

1. List critical customers or users for whom the provision of a continuous supply of safe water is most urgent (include telephone numbers and addresses):

COMMUNICATIONS

1. Methods of communication available during incidents:
2. Means of notifying public affected by emergency:

SOURCE

Well Number	Diameter (inches)	Depth (feet)	Capacity (gpm)	Location	Type of Treatment

1. Describe method to operate wells (manually and automatically):
2. Auxiliary power available:
 - Type:
 - Location:
 - Capacity:
 - Describe method of operation (manual and automatic):
 - a) If auxiliary power not owned by water utility:

1. Owner:
2. Contact (telephone number):
3. Type and terms of agreement:

TREATMENT

1. **If Treatment Employed at wells:**
 - a) Describe method to provide auxiliary power to chemical feed pumps:
2. **If Centralized treatment** (iron removal, zeolite softening, etc.):
 - a) Describe method to provide auxiliary power to high service pumps:
 - b) Describe method to provide auxiliary power to chemical feed pumps:
 - c) Describe procedure to bypass treatment facility:
3. **If no treatment:**
 - a) Describe method to provide emergency chlorination:

DISTRIBUTION

1. **Storage:**

Ground or Elevated	Capacity	Location

- a) Describe procedure to bypass storage facility:
2. **Pumping Stations:**
 - a) Identify location and capacity of pumps:
 - b) Describe method to provide auxiliary power to pumps:
3. Location and size of emergency interconnections with other supplies (include persons to contact and telephone number):
4. Available water haulers (include telephone numbers):

MUTUAL AID AGREEMENTS

List Mutual Aid Agreements that are currently in effect.

EMERGENCY ACTION PROCEDURES

List Emergency Action Procedures to respond to potential incidents identified in the Vulnerability Assessment. See first reference for additional guidance. These SOPs should make reference to and be in agreement with your Hazardous Materials Response Plan. Include emergency action procedures to respond, recover and remediate from an incident. The following items should be included:

- A) Event classification/severity of Emergency
- B) Responsibilities of Emergency Director
- C) Responsibilities of Incident Commander
- D) Emergency Operations Center (EOC) activation
- E) Division internal communications and reporting
- F) External communications and notifications
- G) Emergency telephone list (division internal contacts)
- H) Emergency telephone list (off-site responders, agencies, state 24-hr emergency phone number, and others to be notified)
- I) Mutual Aid Agreements
- J) Contact list of available emergency contractor services/equipment
- K) Emergency equipment list (including inventory for each facility)
- L) Security and access control during emergencies
- M) Facility evacuation and lockdown and personnel accountability
- N) Treatment and transport of injured personnel (including chemical and biological exposure)
- O) Chemical records – to compare against historical results for base line
- P) List of available laboratories for emergency use
- Q) Emergency sampling and analysis (chemical/biological/radiological)
- R) Water use restrictions during emergencies
- S) Alternate temporary water supplies during emergencies
- T) Isolation plans for supply, treatment, storage, and distribution systems
- U) Mitigation plans for neutralizing, flushing, disinfecting tanks, pump stations, or distribution systems including shock chlorination
- V) Protection of vital records during emergencies
- W) Record keeping and reporting (FEMA, OSHA, EPA and other requirements)
- X) Emergency program training, drills and tabletop exercises
- Y) Assessment of emergency management plan and procedures
- Z) crime scene preservation training and plans
- AA) Communication Plans
 - a. Police
 - b. Fire
 - c. Local Government
 - d. Media
 - e. Etc.
- BB) Administration logistics, including EOC, when established
- CC) Equipment needs/maintenance of equipment
- DD) Recovery and restoration of operations
- EE) Emergency event closeout and recovery

A general plan of the waterworks system should be included with this emergency response plan. The general plan should include as a minimum: size, location, and type of water mains and location of valves and hydrants.

Insert Appendix 4 of the Instructions to Assist Community Water systems in Complying with the Public Health Security and Bioterrorism Preparedness Response Act of 2002.

REFERENCES

- 1) Pages 8-13, Water System Security Guidance Document, Michigan Section AWWA, Research & Technical Practices Committee Security Subcommittee, July 2002 (Appendix B of this Guidebook)
- 2) Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (PL 107-188), Section 1433b (Appendix C of this Guidebook)
- 3) Instructions to Assist Community Water systems in Complying with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, <http://www.epa.gov/safewater/security/util-inst.pdf>, Appendix D of this Guidebook
- 4) Large Water System Emergency Response Plan Outline: Guidance to Assist Community Water Systems in Complying with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, <http://www.epa.gov/safewater/security/pdfs/erp-long-outline.pdf>, Appendix E of this Guidebook